



# PESTICIDE *Update*

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Pesticide Section / Food & Drug Protection Division  
<http://www.ncagr.com/fooddrug/pesticid/index.htm>

Fall 2001

## Terrorism Impacts North Carolina Agriculture

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ollowing the recent terrorist attacks on the World Trade Center and Pentagon, terrorism is now seen as a real threat by most North Carolinians. Although farmers and other pesticide applicators may feel far removed from New York City, our agricultural community has felt the impact of these attacks. For example, aerial applicators have recently faced flight restrictions, and pesticide dealers must now comply with a new emergency record-keeping rule.

The agricultural community must respond to this national tragedy with increased preparedness. When the Murrah Federal Building in Oklahoma City was bombed, ammonia nitrate was used. To farmers, ammonium nitrate is just a fertilizer that promotes plant growth; but to a terrorist, it is a weapon of mass destruction. Pesticides can also be very dangerous in the hands of a terrorist. Let's do everything in our power to prevent terrorism from happening again.



### Aerial Applicators

As a result of the September 11, 2001 attacks, the Federal Aviation Authority (FAA) stopped all air traffic in the United States for several days, including those planes operated by aerial applicators in North Carolina. This flight ban has since been lifted, but if it had been imposed for

*The agricultural community must respond to this national tragedy with increased preparedness.*

a longer period of time, North Carolina agriculture could have been drastically impacted. During fall, cotton fields are defoliated using pesticides; aerial application is generally the application method used in much of eastern North

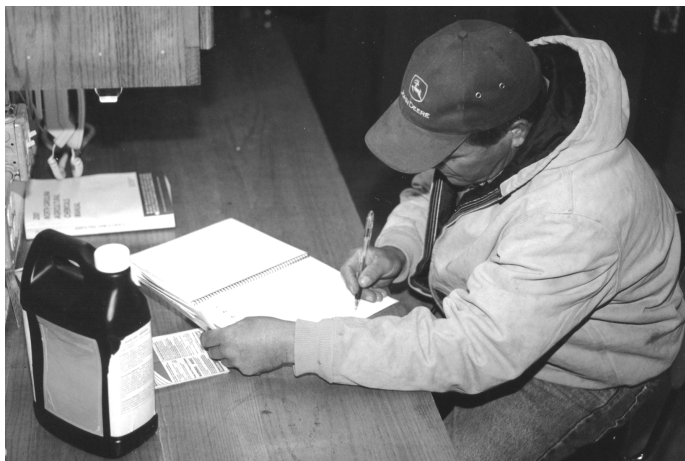
By Dwight Seal, Western District Manager

Carolina. In addition to the inconvenience of a flight ban, the Federal Bureau of Investigation (FBI) also subjected all aerial applicators to background checks to ensure that no suspected terrorists were posing as "crop dusters". It is comforting to know that our government can respond this quickly to a threat of national security, but businesses can certainly be financially impacted by these responses.

### Pesticide Dealers

On October 2, 2001, the North Carolina Pesticide Board unanimously passed an emergency regulation requiring pesticide dealers to keep sales records for all restricted use pesticides.

(See *Terrorism Impacts*, continued, Page 2)



Pesticide dealer keeping records.

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## Terroism Impacts (continued)

Continued from page 1

Adoption of the regulation by the N.C. Pesticide Board was in response to the terrorist activities of September 11, 2001. Both the N.C. Crop Protection Association and the N.C. Farm Bureau gave full support to this regulation, which will become effective November 1, 2001. In the coming months, state pesticide inspectors will be providing pesticide dealers with compliance assistance for this emergency record-keeping regulation.

The following **10 elements** will need to be documented for each restricted use pesticide sale:

- ✓ Date of purchase
- ✓ Initials of sales clerk
- ✓ Name of certified applicator or licensee
- ✓ Certification or license number of buyer
- ✓ Certification or license expiration date
- ✓ Product brand name
- ✓ EPA registration number
- ✓ Number of containers
- ✓ Size of containers
- ✓ Total amount sold.

Before any sale of a restricted use pesticide is conducted, the seller must verify the identity of the purchaser. Verification means that the seller shall assure that the purchaser is a currently licensed or certified applicator and that the cardholder is the person named on the pesticide certification card. There is one exception to this requirement. The regulation allows an employee of a certified or licensed applicator to receive restricted use pesticides, provided all 10 elements are documented and the recipient, who must be at least 16 years of age, signs for these pesticides.

Commissioner Meg Scott Phipps is also recommending that North Carolina pesticide dealers take the following additional precautions:

- ✓ Update and post all emergency number and contact lists.
- ✓ Review all internal security procedures, making sure that employees are properly trained.
- ✓ Report suspicious persons, vehicles, or activities to law enforcement.
- ✓ Report any threats to your facility or personnel.
- ✓ Report all thefts, shortages, or missing pesticides and/or application equipment.
- ✓ Inspect all doors, windows, locks, fencing, and points of entry into any building that houses pesticides to make sure that all are functioning and can be secured.
- ✓ Report all requests to purchase large quantities of products, especially when ever the purchaser is unknown to you, insists on paying cash, or is making an unusual out-of-season purchase.

### All Pesticide Applicators

Every pesticide applicator must take steps to prevent the tools of our trade from getting into the hands of someone who could use them to hurt innocent people. Always make sure that you store chemicals in a secure, preferably locked, area. Do not give, loan, or donate chemicals to anyone unknown to you. Secure application equipment, especially ULV applicators, airplanes, and helicopters so that they cannot be used without your knowledge.

As we all have heard, our way of life changed on September 11, 2001. Everyone, no matter if you live in small town, North Carolina, or in a big metropolis, has been affected in some way. Please do all you can to remain alert and attentive to the possibilities of terrorism. □

## Now Available!

### THE NORTH CAROLINA PESTICIDE REPORT FOR 2000

By Colleen Hudak, Certification, Licensing & Outreach Manager

**T**he Pesticide Board is required by the General Statutes of North Carolina (§ 143-437) to make annual reports to the Governor on matters involving pesticides. These annual reports are also made available to the general public.

The *North Carolina Pesticide Report for 2000* is now ready for distribution. This report contains listings of all individuals licensed in North Carolina as pesticide dealers, aerial applicators, ground applicators, public operators, and pest control consultants, together with the individual's county of residence. In addition, the *Pesticide Report for 2000* summarizes the analytical results of pesticide products collected in the marketplace by North Carolina pesticide inspectors. Manufacturers found to have unregistered or misbranded products in the marketplace are given as well.

The complete *Pesticide Report for 2000* can be accessed from the Pesticide Section's website (<http://www.agr.state.nc.us/fooddrug/pesticid>). If a hard copy is needed, please fill out the following form continued on page 6 and mail it to NCDA&CS-Pesticide Section, P.O. Box 27647, Raleigh, NC 27611, or send an e-mail to us at [laura.stover@ncmail.net](mailto:laura.stover@ncmail.net). □

(See Now Available! continued, Page 6)

#### Pesticide Report For 2000

North Carolina Department Of Agriculture  
and Consumer Services  
Meg Scott Phipps, Commissioner



# Results of the NC Pesticide Dealer Training Survey

By Dr. Wayne Buhler, Pesticide Education Specialist, & Dr. Linda Whipker, Market Consultant

**E**arlier this year, the N.C. Cooperative Extension Service and the N.C. Department of Agriculture and Consumer Services undertook a survey of North Carolina pesticide dealers. In January, all of the 794 holders of N.C. dealer's licenses received questionnaires in the mail. An impressive 51 percent of those questionnaires were returned. All participants qualified for ½ hour of re-certification credit.

One of the key goals of this research was to characterize the North Carolina pesticide dealer population. In general, most of the holders of N.C. dealer's licenses worked for retail dealerships that primarily serve the agricultural market; nevertheless, half of the respondents indicated that they also served the homeowner and horticultural markets (Figure 1). Many of the firms were local independent organizations (57 percent of the respondents), with the largest representation of local independents being those dealers primarily serving the homeowner market. Many respondents said their dealerships had only one outlet in North Carolina, with 10 or fewer full-time employees in the outlet.

Two-thirds of the respondents said that only one employee in their outlet held a N.C. dealer's license, with the holder typically being the owner/manager of the dealership. These people were experienced, with over half of the respondents having more than 20 years of experience. They were also fairly well educated (40 percent held at least a 4-year college degree).

In general, pesticides accounted for less than 50 percent of product sales. Almost half of the respondents said their pesticide sales had dropped in the last 3 years, with the largest sales declines occurring for agricultural and homeowner dealerships. Many horticultural dealers actually saw sales increase as tobacco acres declined in North Carolina and horticultural production increased.

Overall, North Carolina dealers are computer literate, with three-quarters saying their outlet had a computer and most of them having Internet access. Despite use of email internally, it was not being used as a marketing tool. Few dealers had used email to communicate with their customers in the past year. Almost a third said they had a corporate website.

Dealers said they got information about pesticides from a wide variety of sources, including personal contacts, written sources, and on-line references. The following were cited as useful informational sources, with the most useful listed first and then others

given in descending order:

1. NC Agricultural Chemicals Manual
2. NCSU extension agents/specialists
3. Farm Chemical Handbook
4. Company-specific label guides
5. C&P Press Agricultural Labels (Green book)
6. NCSU's Fact sheets and newsletters
7. NCDA&CS's Pesticide Update (this publication)

Although information about regulatory and label changes were obtained almost equally from manufacturers, regulatory agencies and distributors, those who used NCDA&CS as their source were the most satisfied with the information received.

## Previous experience with training

Most dealers had been involved in some type of training program in the past year. In-house training was common for cooperatives, national and regional

(See Results of the NC... continued, Page 9)

Figure 1. Markets Represented

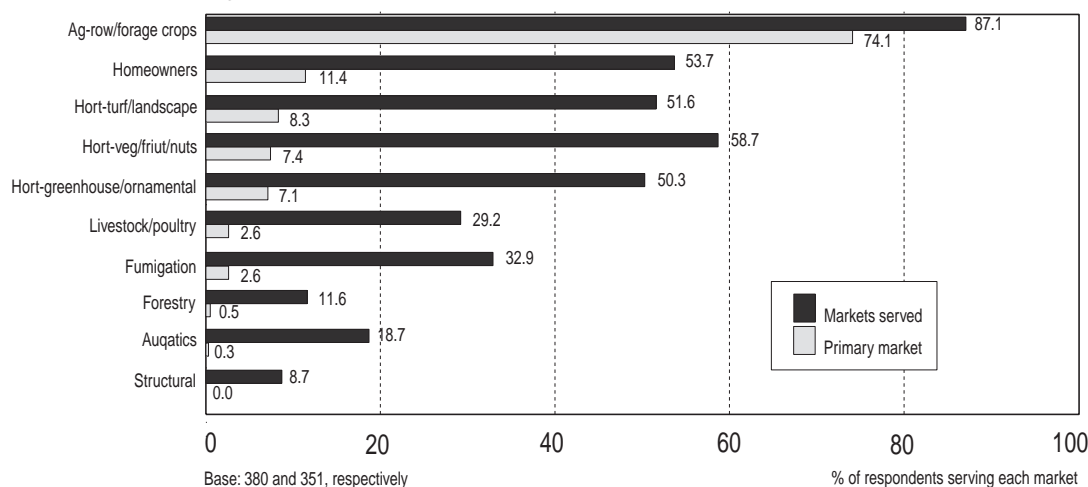
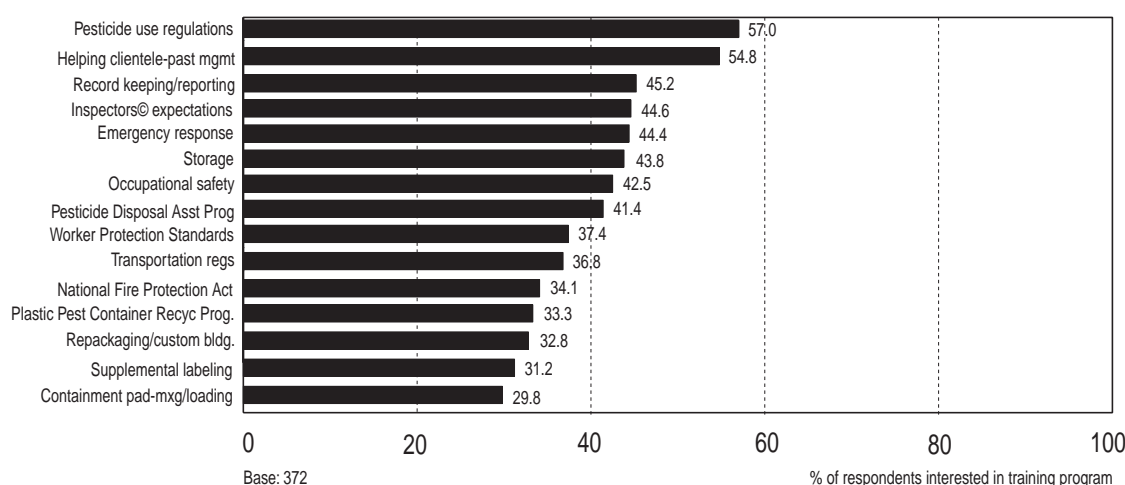


Figure 2. Pesticide-Related Topics Desired in Training Programs





## Evaluation of Heat Stress in North Carolina Field Workers

By Byron Burlingham, N.C. AgroMedicine Institute

**T**he AgroMedicine Institute has been evaluating the impact of heat stress on the health and productivity of field workers. A project is currently underway to examine the environmental heat load in the field and the body's corresponding responses. The project seeks to identify management strategies that prevent heat-related disorders, increase worker performance, and foster a healthier field work environment.

Countless workers experience heat stress and mild symptoms of heat disorders every year in North Carolina. In eastern North Carolina, the danger season for heat stress usually begins about April 1 and runs through October 15. During 2000, 141 days of the 180-day growing season in eastern N.C. were above the National Weather Service (NWS) Heat Index Caution threshold of 80 degrees F.

In North Carolina, the Coastal Plains have the highest heat stress levels and the highest rate of heat-related disorders. Key contributing factors are high air temperature, high humidity, large numbers of small farms with non-mechanized harvest, and field crop production that requires a large amount of manual labor. Heat stress occurs in the Piedmont, but there are fewer high heat index days per season. Heat stress is least common in the mountains due to the effect of altitude on temperature and relative humidity.

Under high heat index conditions, heat illness may escalate from a self-treatable condition to an acute medical emergency in just a few hours. Heat illness may progress from general discomfort to heat cramps, heat syncope (fainting), heat exhaustion and finally heat stroke. Heat edema (swelling), heat cramps and

heat syncope are minor, non-life threatening symptoms that usually subside with rest and fluid repletion. Heat exhaustion and heat stroke are potentially fatal disorders that must be recognized and treated promptly. Ceasing to perspire, confusion and fainting are serious warning signs that one may be experiencing heat exhaustion or heat stroke. Certain medications, alcohol, and recreational drugs should be avoided while working in the heat since they may exacerbate heat illness. About 240 persons die of exertional heat-related disorders in the United States each year. During the past two years, there have been at least three serious cases of heat stroke in NC field workers; one recovered, one remains in a permanent vegetative state, and one died.

### ***Important observations from this season in eastern North Carolina fields***

The NWS reports the heat index at its weather stations on an hourly basis when the heat index is >70 degrees F. These weather stations are usually at airports. The heat index within a row crop is commonly 8-10 degrees F greater than the NWS report. All crops evaluated, except one, increased the heat index of the work environment. For example, the heat index in a row of tobacco was at least 7 degrees greater than the path at the head of the row.

Since the NWS index is determined for a shaded environment, radiant heat (sunlight) is not taken into account. Workers in full sun absorb much radiant heat, which increases body temperature even further. In our study, the radiant heat

of the sun often exceeded 120 degrees F in the field between 10 AM and 3 PM. Depending on the angle of the sun, tree borders reflected heat into the field for up to 200 yards and frequently elevated the heat index by 3-5 degrees F.

When the heat index is greater than 80 degrees F, workers laboring in the sun accumulate heat from their exertion and from absorption of the environmental heat energy. The first 0.75 degrees F elevation of body heat appears to increase the worker's functional performance, probably like the "warm-up" for athletes. But as the worker's core body temperature continues to rise, the worker's physical productivity appears to decline at an increasing rate proportional to the excess heat accumulated. In addition, cognitive skills such as memory, simple mental processing, and judgement decrease. These mental changes are probably the earliest signs of the onset of heat stress. Diminished mental function may play a major role in the decrease in work efficiency and work place safety.

Maintaining good body hydration is the first line of defense against heat stress. Since significant bodily changes occur before our thirst response becomes activated, the worker needs to take periodic water breaks even before he begins to feel thirsty. In our study, the average worker's thirst did not match his level of dehydration. Therefore, workers can continue to dehydrate throughout the workday, not re-establishing their normal hydration state until very late in the day. The message is clear. When a worker is in a field environment with a high heat load, drinking water is critical to maintaining good health. □

*For additional information, contact Byron Burlingham, [burlinghamb@mail.ecu.edu](mailto:burlinghamb@mail.ecu.edu) or (252) 744-1000. This one-year project entitled "Farm Injury and Illness: An AgroMedicine Approach to Heat-Related Illness" is funded by the Cooperative State Research, Education, and Extension Service branch of the U.S. Department of Agriculture.*

## NCPB Actions

**A**t the May, July and September 2001, meetings of the North Carolina Pesticide Board, the following settlement agreements, including license suspensions and monetary penalties totaling \$16,100.00, were approved for alleged violations of the NC Pesticide Law of 1971. Consent to the terms of the settlement agreement does not constitute an admission of guilt to any alleged violation.

**Charles M. Allen**, Henderson, for the alleged violation(s) of engaging in the business as a pesticide applicator without a license. Mr. Allen agreed to pay a monetary penalty.

**Allergy Relief Cleaning Specialists, Inc.**, Charlotte, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling. Allergy Relief Cleaning Specialists, Inc. agreed to pay a monetary

penalty.

**Aquagenix Land and Water Management**, Jacksonville, Florida, for

*(See NCPB Actions continued, Page 9)*



## DEALER REMINDER

### Chlorpyrifos Cancellation and Phase Out of Uses

By Lee Davis, Registration Manager

**O**n June 8, 2000, the Environmental Protection Agency (EPA) announced that many of the currently labeled uses of the insecticide, chlorpyrifos, will be cancelled and/or phased out. All homeowner products (except ant and roach baits in child-resistant packaging) and many other indoor and outdoor non-residential uses are being eliminated. The EPA has taken this action to reduce exposure to this pesticide, especially among children. It is important to note that most chlorpyrifos products labeled for agricultural uses are not affected by this cancellation. The only agricultural uses cancelled by this action are applications to tomatoes and most post-bloom applications to apple trees. Application to apple tree trunks is still allowed. Please see the table, "Chlorpyrifos-Cancellation and Phase-Out of Uses," at <http://www.ncagr.com/fooddrug/pesticid/specialnotices.htm> for more details regarding the labeling and use of chlorpyrifos products.

In the document, "Notice to Retailers on Pesticide Products Containing Chlorpyrifos," ([http://www.epa.gov/oppead1/cb/csb\\_page/updates/noticedursb.htm](http://www.epa.gov/oppead1/cb/csb_page/updates/noticedursb.htm)), the EPA explains why this action has been taken and how it will effect chlorpyrifos sales. It is especially important to remember that **sales of chlorpyrifos products that have residential and/or other cancelled uses will be unlawful after December 31, 2001.** Any unsold products that are labeled for use on cancelled sites must then be removed from store shelves. Merchants who have unmarketable products after the December 31, 2001 deadline should contact their distributor to see if they will buy or take back the stock. If not, the North Carolina Department of Agriculture and Consumer Services does offer a disposal service to handle small quantities of cancelled pesticides. If needed, please contact the Department's Pesticide Waste Disposal Program at 919-715-9023 or 919-733-7366 to see if you qualify for assistance. Of course, it is best for merchants to monitor their chlorpyrifos products to ensure that all stocks affected by the cancellation are depleted prior to the stop sale deadline.

Identifying products that contain chlorpyrifos as an active ingredient is rela-

Most homeowner uses of chlorpyrifos are being cancelled.



tively easy. Some products may list the more recognizable names of "chlorpyrifos" or Dursban®. However, others may only provide the chemical name: "O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate". The list of active ingredients is usually found on the front panel of the container. Some of the more common trade names of chlorpyrifos products include "Dursban®", Empire 20®, Equity® and Lorsban®.

Consumers who have chlorpyrifos products in their possession after December 31, 2001 can continue to use the products according to label directions until the product is exhausted. According to the EPA, using up these old products according to label directions "does not pose an immediate hazard". As with all pesticides, consumers who decide to use chlorpyrifos products should follow all precautions and directions for use on the labels. As part of their compliance monitoring activities, North Carolina Pesticide Inspectors will conduct random inspections of retail, wholesale and producer establishments to ensure compliance with the terms of the cancellation order. □

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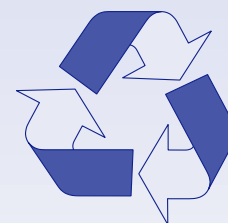


**PESTICIDE**  
*Update*

#### Pesticide Section

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Pesticide Update is a quarterly report of the Pesticide Section.



**Please Recycle.**

For more information about pesticides,  
contact your local Cooperative Extension Service office.

## NOW AVAILABLE! The North Carolina Pesticide Report For 2000 Continued

**AGAIN....**The complete *Pesticide Report for 2000* can be accessed from the Pesticide Section's website (<http://www.agr.state.nc.us/fooddrug/pesticid>). If a hard copy is needed, please fill out the following form and mail it to NCDA&CS-Pesticide Section, P.O. Box 27647, Raleigh, NC 27611, or send an e-mail to us at [laura.stover@ncmail.net](mailto:laura.stover@ncmail.net).

NAME \_\_\_\_\_

LICENSE/CERTIFICATION# \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_

## Free WPS Training For Your Workers

By Peyam Berghassa, Bilingual Pesticide Specialist

**P**esticide safety training for agricultural workers is not only a requirement of the Worker Protection Standard (WPS), but it also makes good, common sense. Employers need a healthy, dependable workforce that is knowledgeable regarding potential pesticide exposure and ways that exposure can be minimized. Unfortunately, barriers in communication sometimes make it difficult for growers to comply with the training requirements of WPS.

The NCDA&CS-Pesticide Section is pleased to announce that, through financial assistance from the Pesticide Environmental Trust Fund (PETF), North Carolina is now participating in the Serving America's Farmworkers Everywhere (SAFE) program. The Association of Farmworker Opportunity Programs (AFOP) nationally administers the SAFE program, which utilizes Ameri-Corps volunteers to train farm-workers in pesticide safety. The PETF grant was given to the N.C. Department of Health and Human Services, whose Office of Research, Demonstrations & Rural Health Development will oversee the hiring of volunteers and the training of agricultural workers in North Carolina.

SAFE uses EPA-approved educational materials. The training is interactive and culturally sensitive and is carried out in the language most easily understood by the workers. In most cases, this language is Spanish. Best of all, SAFE offers the program free of charge and, most of the time, is conveniently held on the agricultural employer's



Jacqueline De Carlo, Senior Manager, AFOP

establishment. The Pesticide Section will work closely with the Office of Research, Demonstrations & Rural Health Development to make sure that appropriate WPS training is being offered.

The PETF grant will support SAFE over a two-year period in North Carolina. Currently, AmeriCorps volunteers are training workers at two rural healthcare clinics, one in Snow Hill and the other in Prospect Hill. In the future, the program hopes to expand to other migrant health-care clinics in the State.

To request more information about the SAFE program and its availability in your area, please contact:

Caroline Whitehead Doherty  
NC Farmworker Health  
Program Director  
Office of Research, Demonstrations,  
and Rural Health Development  
2009 Mail Service  
Center/311 Ashe Ave.  
Raleigh, NC 27699-2009  
(919) 715-7210  
[caroline.whitehead@ncmail.net](mailto:caroline.whitehead@ncmail.net)

## Consumers and Pesticides: How Safe a Mix?

By Anna M. Rouse, PharmD, CSPI  
Assistant Director Carolinas Poison Center

♦ There was a death in New York this year of a man who took an old, seldom-used agricultural herbicide for weight loss. He had read on the Internet that this substance was first used as a weight-loss product in the 1930's. He died after four days of ingesting the product.

♦ The parents of a six-year-old girl used fenthion, an organophosphate pesticide intended for horses, to treat lice. They diluted it; then applied it to her body and scalp daily for two days. The child became ill and was hospitalized for several days. She was treated with pralidoxime and atropine, the antidotes for organophosphate poisoning.

♦ A woman purchased a chlorpyrifos-containing insecticide. The clerk at the feed and hardware store assured her it was safe to use indoors. After exuberantly spraying the interior of her home with the product, she read the label that said "For outdoor use only". Neither she nor the store clerk had read the label beforehand.

(See Consumers and Pesticides: How Safe a Mix? continued, Page 8)

# The Baiting of Animals

By Mrs. Patricia Johnson (DWAA), North Carolina licensed pesticide applicator

**B**aiting usually refers to the intentional practice of lacing a tempting morsel of food with a chemical (such as a pesticide) and leaving it for an unwanted animal to find. This misuse of the product can lead to the death of pets, livestock, wildlife, or even children. As many North Carolinians have learned in the past few years, the Pesticide Section thoroughly investigates all cases of suspected pesticide baiting, and those who are caught face hefty fines and even jail time.

Unfortunately, there are many ways, both *intentional* and *unintentional*, that an animal can be baited. Let's explore some of the typical ways that animals are baited in North Carolina plus the types of people who bait and how to help prevent it.

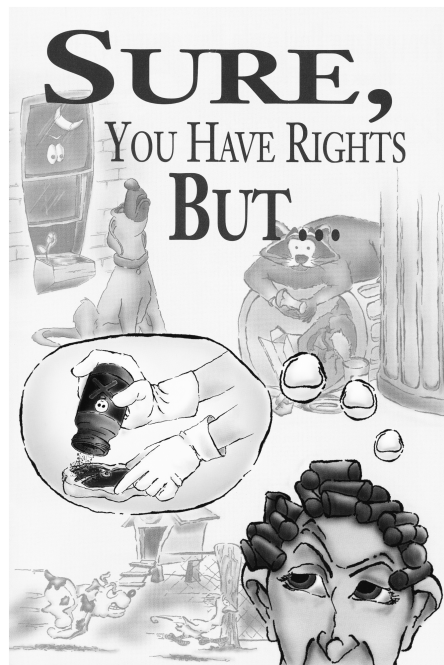
## Unintentional Baiting

We will begin with some of the accidental (unintentional) ways that animals may be baited. Think back to the last time that you picked vegetables out of your garden. Didn't you spray an insecticide to kill those pesky bugs? Did you wash the skins before deciding to feed the vegetables to the birds, horses, pigs or the family pet? If not, you may have just baited these animals with a pesticide. Sometimes we just don't think and may end up with a sick animal. Remember, the last time you sprayed a chemical on a pan inside a cage to clean it? Oops! Did you forget to take out the food and water bowl? Guess what, there may be some chemical mist that contaminated the containers.

We can also harm our four-legged friends by enticing them with human foods such as chocolate, alcoholic beverages, coffee and tea (caffeine), and potato chips containing olestra. We mean well, but without thinking, we can make animals sick. A report came out recently that even too many grapes and raisins could cause kidney failure in some canines! Some of the toys that we choose for our dogs can be dangerous. For example, there was a recent "Zinc Alert" where a 2-year-old Wheaten Terrier apparently died of zinc toxicosis after eating the inner weight contained in a "Wiggly Giggly Ball" (<http://www.napcc.aspc.org/zinc.htm>).

There are so many products now labeled for flea control. We need to evaluate carefully the use of each product. Last week, a lady wanted me to apply

a once-a-month flea treatment ("drop") on her dog's back. The label read up to a 22-pound dog. Her dog weighed 10lbs. If I had done what she asked, I could have over-dosed her dog. I called a veterinarian



who told me only to use half the liquid and seal the unused product until the next month.

When clients bring a pet to board or groom, it's to your benefit to know what's going on. You get a call from the clients and later their vet, asking why does this pet seem sick after you groomed it. Know the right answer. Observe the pet and, if it acts strange, write it on the receipt, plus tell the owner and call their vet. Educate your clients, and they will usually never leave you because they know you care. My saying is, "Concentrate on service and the money will come. Concentrate on the money only, and lose it all."

## Intentional Baiting

So, you think only criminals and low life people intentionally bait a pet? Think again. A lot of "ordinary people" think that baiting is an acceptable practice. We as pet groomers need to set a good example and help educate the public. There is often a disturbing connection between animal abuse and interpersonal violence. Severe animal abuse may be an indicator of existing domestic instability, or it may be a warning sign of future

violence against people.

How do we protect our pets? Visit and know your neighbors. See how they interact with each other. Is there a violent side? Do they have pets? How do they treat them? Do they seem to like your pets? Ask questions about animals in general and what is used to treat the yard and house. This will help you see if there may be a problem. Don't let your pets run free without watching them or go in other people's yards to dig or defecate. This can provoke the best of neighbors. If you see animals getting sick or mysteriously dying, call the NCDA&CS-Pesticide Section at (919) 733-3556.

I hope this article will help make you more aware of the many ways that animals are baited everyday plus how to recognize people who abuse pets. You many want to post this column to make your clients think about what can happen. Remember this is your column. Let's use this chance to educate each other on the many problems that arise in our industry. Please let me hear from you. Tell me about new flea products and any safety concerns or side effects that you have encountered. □

*[Editor's note. Mrs. Johnson owns and operates a grooming and boarding kennel in Chatham County. She has written numerous articles on pet care and is a member of the Dog Writers Associates of America (DWAA). If you have questions regarding the use of pesticides on small animals, please feel free to contact her by fax (919-663-0402) or by writing to her at P.O. Box 338, Siler City or 115 Poe Road, NC 27344. She will research appropriate questions so that we can feature them in upcoming issues of the Pesticide Update.]*





## Consumers and Pesticides: (continued)

Continued from page 6

**E**xcept for the New York case, all of these cases were calls made to the Carolinas Poison Center in the past year. They are all examples of inappropriate use of pesticides. How many of these episodes could have been prevented? The answer is **all of them**.

Pesticides are necessary products in today's society. When used correctly, they protect our food supply and our families and animals from vermin that can't be controlled by other methods. When used incorrectly, they can be dangerous and even deadly.

For the past year, the Carolinas Poison Center has been participating in the "Stop Childhood Poisoning...Because You Can" campaign that is funded by NCDA&CS's Pesticide Environmental Trust Fund (PETF). The goal of this project is to increase the public's awareness and concern over the misuse of pesticides. The examples above illustrate the ways in which mistakes are made.

How can these poisonings be prevented? Many of these exposures occur because people fail to read product labels. Consumers should be encouraged to read product labeling before purchasing, and again before using pesticides. Retailers should educate their staff regarding product lines and how to use them. Employees should be able to answer questions about product use or be able to refer consumers to appropriate resources for more information. Pharmacists have a saying that's abbreviated as "RL3"; this means "read the label three times before dispensing a medication." This kind of practice should be encouraged in the use of pesticides as well. Consumers should also be educated on the importance of personal protective equipment, such as gloves, safety glasses, and aprons, and what conditions and/or materials to avoid. For instance, many callers to the Carolinas Poison Center have no knowledge of the dangers of organophosphates and what

steps to take to avoid exposure.

Some exposures occur because the user has some knowledge about pesticides, but not enough information about their dangers and proper use. For example, a consumer may know that a certain product contains pyrethrins and piperonyl butoxide. He may also be aware that the can of roach spray that he bought at the grocery store also contains py-

rethrins and piperonyl butoxide. So why can't you use these products interchangeably? Consumers often don't understand that many products have never been tested on humans

since they were never intended to be used this way. They may not realize that concentrations of products may vary depending on the labeled use. Potencies can be different between agents in the same chemical class. Solvents and other substances in commercial products can be harmful to humans.

Some people take home concentrated or professional strength products used in the workplace. This presents a difficult problem should there be an exposure in the home. Often the user doesn't have the product label and won't remember its exact name or ingredients. Even if the Poison Center is called, there can be a delay in necessary treatment while the product is being identified. Again, educating consumers and employees can prevent potentially dangerous exposures in the home.

Thankfully, not all calls to the Poison Center come after an exposure has occurred. Many people call before their home is treated for termites or other insects. They usually have small children and want to know what kind of precautions to take, such as how long to stay out of the home and how to clean any residue left from the application. If the caller knows the names of the products that will be used, these questions are easy to answer. If the caller does not know what products are to be used, they will often be referred back to the pest control

By Anna M. Rouse, PharmD, CSPI  
Assistant Director, Carolinas Poison Center



company for that information.

The Carolinas Poison Center is available 24 hours a day to assist in poisoning exposures of any kind, as well as to provide poison prevention information. Preventing harmful misuse of pesticides is an important part of our mission. Educating consumers to read labels, take proper precautions, and follow directions can help ensure the safe use of pesticides in the future. Ad-

♦A man visited his doctor because he thought he had food poisoning. He had experienced vomiting, diarrhea, and other symptoms for several days. After his doctor conferred with a poison specialist and questioned the man, he admitted he'd sprayed an undiluted organophosphate several days earlier. He had not worn gloves, a mask, or any other protective gear; nor had he showered after using the pesticide spray.

ditional information may be obtained by calling 704-395-3753 (during business hours) or by visiting our website at <http://www.carolinas.org/services/poison/index.cfm>. In case of an emergency poisoning, call 1-800-848-6946, our statewide, toll free number. Charlotte and Mecklenburg County residents can call the local emergency line at 704-355-4000. □

# Results of the NC Pesticide Dealer Training Survey (continued)

*Continued from page 3*

they did not usually pay for training out of their own pockets; instead, the company usually paid all of the expenses incurred.

Overall, dealers were satisfied with training programs offered by NCCES, with the agricultural dealers being the most pleased. Three-quarters of the respondents had attended an NCCES-sponsored training program within the last year. The most common suggestion for improving NCCES training programs was to provide more hands-on examples, videos, and outside speakers.

## Format for future training

In general, respondents expect training to be short (a ½ day or less was preferred) and within an hour's travel time. Dealers said that the best time for training would be in the morning on a Tuesday, Wednesday or Thursday in December, January or February. In some areas, the availability of pesticide safety materials in Spanish was considered critically important; the most interest was shown by horticultural dealers and by dealers in the mountains.

Of the 15 topics considered by NCCES and NCDA & CS to be critically important for dealers, the overall knowledge level was relatively low; fewer than half of the respondents rated their knowledge level as "high" relative to what they needed for their job. The topic areas that respondents were most interested in having presented in a training program were pesticide-use regulations and helping clientele with pest management solutions (Figure 2). Respondents were interested in having several other topics available in written format, including the Worker Protection Standard and the National Fire Protection Act.

## Where to go from here?

Our purpose in conducting the survey was to find out how NCCES and NCDA&CS could be more effective in meeting the needs of dealers for pesticide training and information. The results will be used to improve current pesticide training programs and publications that target N.C. pesticide dealers.

Thank you to all those individuals who participated in the survey. Your input will be helpful as we prepare for the future. □



## NCPB Actions (continued)

the alleged violation(s) of failing to pay the original or renewal license fee when due and continuing to operate as a pesticide applicator, or applying pesticides without a license. Aquagenix agreed to pay a monetary penalty.

**Jerry W. Blevins**, Statesville, for the alleged violation(s) of making a restricted use pesticide available to a noncertified applicator, and for gross negligence, incompetence or misconduct in acting as a pesticide dealer. Mr. Blevins agreed to a monetary penalty and a three month suspension of his dealer's license.

**Phillip E. Burke**, Burgaw, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling; for applying pesticide under conditions where drift from particles or vapors result in adverse effect; and for operating in a faulty, careless, or negligent manner. Mr. Burke agreed to a monetary payment.

**Central Garden and Pet Supply**, Orlando, Florida, for the alleged violation(s) of distributing, offering to sale and selling a pesticide which is not registered for sale in this State. Central Garden and Pet Supply agreed to a monetary payment.

**Johnny W. Christopher**, Catawba, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling; for failing to make a pesticide recommendation or application in accordance with the label registered; for handling, transporting, storing, displaying, or distributing pesticides in such a manner as to endanger man and his environment; for storing or disposing pesticide containers or pesticides by means other than those prescribed on the labeling; and for operating in a careless, or negligent manner. Mr. Christopher agreed to a three-month suspension of his private applicator certification and a monetary penalty.

**T. Larry Corbett**, Nashville, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling; for handling, transporting, storing, displaying, or distributing pesticides in such a manner as to endanger man and his environment; operating in a faulty, careless manner; failing to provide pesticide safety training to employees; failing to display pesticide safety poster; and for failing to provide specific information to employee(s) regarding the location & accessibility of pesticide

information, including the location of and description of the treated area, the product name, EPA registration number, and active ingredients, the time and date of the pesticide application, and the restricted interval for the pesticide. Mr. Corbett agreed to a monetary penalty and a one-year suspension of his private applicator's certification.

**Jeff A. Crawley**, Nebo, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling; for operating in a faulty, careless, or negligent manner; and for applying pesticide under conditions where drift from particles or vapors result in adverse effect. Mr. Crawley agreed to pay a monetary penalty.

**Lloyd C. Honeycutt**, Dunn, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for operating in a faulty, careless, or negligent manner; for failing to prevent worker entry into a treated area before the restricted entry interval had expired; for failing to provide and to assure the proper use of personal protective equipment by his

*(See NCPB Actions continued, Page 10)*

## NCPB Actions (continued)

*Continued from page 9*

employees; for allowing hand labor and entry into a treated area prior to 4 hours after a pesticide application; for failing to assure that the employee had read or understood all of the labeling requirements; for failing to provide a decontamination site; for failing to notify (written or oral) employees of all pesticide applications in the greenhouse, farms, nurseries and forests; for failing to post warning signs at all usual points of worker entry to the treated areas (farms, forests, nurseries and greenhouses); for failing to provide specific information to employee(s) regarding the location & accessibility of pesticide information, including the location of and description of the treated area, the product name, EPA registration number, and active ingredients, the time and date of the pesticide application and the restricted interval for the pesticide; and for failing to display pesticide safety information in a central location. Mr. Honeycutt agreed to pay a monetary penalty.

**John T. Keegan**, Wilmington, for the alleged violation of distributing, selling or offering for sale an improperly labeled pesticide container; and for making a restricted use pesticide available to a noncertified applicator. Mr. Keegan agreed to pay a monetary penalty.

**Clarence A. Lemons**, Greenville, for the alleged violation of distributing, selling or offering to sale restricted use pesticide(s) to an unlicensed pesticide dealer. Mr. Lemons agreed to pay a monetary penalty.

**Charlie Little**, Catawba, for the alleged violation of allowing one's license to be used by an unlicensed person; and for operating in a careless, or negligent manner. Mr. Little agreed to pay a monetary penalty.

**Allen L. McMurray**, Newland, for the alleged violation of distributing, selling or offering for sale restricted use pesticide(s) to an unlicensed pesticide dealer. Mr. McMurray agreed to pay a monetary penalty.

**Dawn M. McNamara**, Research Triangle Park, for the alleged violation(s) of using a pesticide in a manner inconsistent with its label; for making a pesticide application or recommendation not in accordance with the label; for operating in a careless, faulty, or negligent manner; for improperly storing or disposing pesticides or containers by means other than those prescribed by labeling; for applying pesticide

under conditions where drift from particles or vapors result in adverse effect or contact either directly or through drift, any worker or other persons; for failing to assure that the handler employee was knowledgeable about the label; for failing to provide pesticide safety training to handler employees; for failing to develop a prefire plan for a storage facility and for failing to maintain a current inventory list of the kinds of stored pesticides by brand name and formulation. Ms. McNamara agreed to pay a monetary penalty.

**Edward E. Miller, Sr.**, Dunn, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for operating in a faulty, careless, or negligent manner; and for applying pesticide under conditions where drift from particles or vapors result in adverse effect. Mr. Miller, Sr. agreed to pay a monetary penalty.

**Carlos A Miron**, Aberdeen, for the alleged violation of failing to pay the original or renewal license fee when due and continuing to operate as an applicator, or applying pesticides without license. Mr. Miron agreed to pay a monetary penalty.

**David A. Parker**, Mars Hill, for the alleged violation of acting in the capacity of a pesticide dealer, without a license; and for failing to pay the original or renewal license fee when due, and continuing to sell restricted use pesticides without paying the license fee, or selling restricted use pesticides without a license; for misconduct in acting as a pesticide dealer; for disposing or storing pesticide(s) or containers by means other than those prescribed on the label or adopted regulations; and for providing or making available to a noncertified or unlicensed pesticide applicator, a restricted use pesticide; for failing to maintain a current inventory list of the kinds of stored pesticides by brand name and formulation as required for operating a storage facility and for failing to immediately respond to a pesticide spill according to mitigation and disposal requirements. Mr. Parker agreed to pay a monetary penalty.

**E. Daniel Pell**, Stoneville, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for operating in a careless, faulty, or negligent manner; for failing to pay the original or renewal license fee when due, and continuing to operate as an applicator,

or applying pesticides without a license and for making a pesticide application or recommendation not in accordance with the label. Mr. Pell agreed to a monetary penalty and a month's suspension of his pesticide certification.

**Mark H. Pittman**, Rocky Mount, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for operating in a careless, faulty, or negligent manner and for making a pesticide application or recommendation not in accordance with the label. Mr. Pittman agreed to pay a monetary penalty.

**Elmer E. Powers**, Trenton, for the alleged violation of depositing a pesticide by aircraft on the right-of-way of a public road or within 25 feet of a road. Mr. Powers agreed to pay a monetary penalty.

**Ralph J. Repp, Jr.**, Waynesville, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for making a pesticide application or recommendation not in accordance with the label; for operating in a careless, faulty, or negligent manner; and for storing or disposing pesticide(s) or container(s) by means other than those prescribed by labeling; for storing formulated pesticide in unlabeled containers; for failing to provide specific information to employee(s) regarding the location & accessibility of pesticide information, including the location of and description of the treated area, the product name, EPA registration number, and active ingredients, the time and date of the pesticide application, and the restricted interval for the pesticide; and for failing to display pesticide safety information in a central location. Mr. Repp agreed to a monetary penalty.

**Eddie D. Shelton**, Marshall, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for operating in a careless, faulty, or negligent manner and for making a pesticide application or recommendation not in accordance with the label. Mr. Shelton agreed to pay a monetary penalty.

**James B. Spell**, Salemburg, for the alleged violation of failing to provide specific information to employees regarding the location & accessibility of pesticide information, including the location of and description of the treated area(s),

*(NCPB Actions continued, Page 11)*



## NC Agromedicine Institute Chosen As Regional NIOSH Center

**T** By James Choate, Certification & Training Specialist

The North Carolina Agromedicine Institute has received a five year grant to create a regional agromedicine center for the southeast coastal region. Official notification came from the National Institute for Occupational Safety and Health (NIOSH) in October 2001. This new regional agromedicine center will cover Puerto Rico, the Virgin Islands and the following states: North Carolina, South Carolina, Virginia, Georgia, Alabama, Mississippi and Florida.

Three participating N.C. universities (N.C. State University, East Carolina University, and N.C. A & T State University) will collaborate in research, education, and outreach efforts aimed at improving rural health and safety. The regional center will be known as the Southern Coastal Agromedicine Center. Ten projects have been funded by the NIOSH grant. For further information, contact:

Susan Gustke, M.D., Director  
North Carolina Agromedicine institute  
1157 VOA Site C Road  
Greenville, NC 27834

Ph. 252.744.1000  
Fx. 252.744.1009  
gustkes@mail.ecu.edu

## NCPB Actions (continued)

*Continued from page 10*

the product name, EPA registration number, and active ingredients, the time and date of the pesticide application, and the restricted interval for the pesticide; and for failing to display pesticide safety information in a central and accessible (by employees) location. Mr. Spell agreed to pay a monetary penalty.

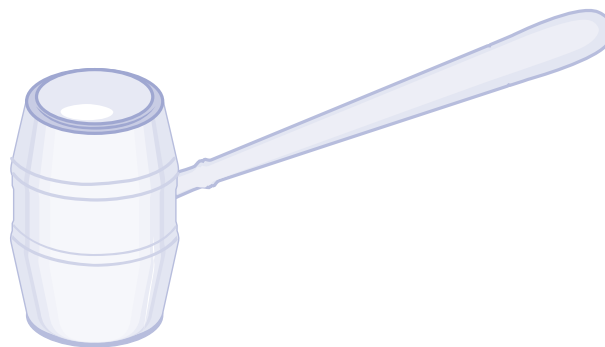
**D. Carroll Vann**, Greenville, for the alleged violation of using a pesticide in a manner inconsistent with its labeling. Mr. Vann agreed to pay a monetary penalty.

**Joseph K. Vaughan**, Murfreesboro, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling; for applying pesticide under conditions where drift from particles or vapors result in adverse; for operating in a careless, faulty, or negligent manner. Mr. Vaughan agreed to pay a monetary penalty.

**Wal-Mart Distribution Center**, Hope Mills, for the alleged violation of distributing, selling, or offering for sale, a pesticide not registered for sale in this State. Wal-Mart Distribution center agreed to a monetary penalty.

**Brian A. Wall**, Jacksonville, for the alleged violation of using a pesticide in a manner inconsistent with its labeling; for making a pesticide application or recommendation not in accordance with the label and for operating in a careless, faulty, or negligent manner. Mr. Wall agreed to pay a monetary penalty.

**James M. Weaver**, Nashville, for the alleged violation(s) of using a pesticide in a manner inconsistent with its labeling; for operating in a careless, faulty, or negligent manner; and for making a pesticide application or recommendation not in accordance with the label. Mr. Weaver agreed to pay a monetary penalty. □



## N.C. Pesticide Board Hears PAC Recommendations Regarding Revision of Aerial Pesticide Application Rules

**T** By Colleen Hudak, Certification, Licensing & Outreach Manager

The N.C. Pesticide Board met Tuesday, November 13 to hear recommendations from the N.C. Pesticide Advisory Committee (PAC) regarding possible revision of aerial pesticide application rules (2 NCAC 91. 1000). Dr. Alan York, Chairman of the PAC, presented the recommended changes. Suggested revisions would make compliance with State regulations easier for aerial applicators while still fully protecting human health.

In addition to the deletion of outdated language related to aerial application of pesticides, the PAC proposed changing the current standard of "zero deposit" within certain restricted areas to acceptable, health-based limits. Other proposals include changes to the boundaries of restricted areas and allowing inhabitants of a residence who are of legal age the right to give written consent to the application of pesticides within 100 feet of their dwelling.

Drs. Curt Lunchick (Aventis Crop Science) and Luanne K. Williams (N.C. Department of Health & Human Services) offered comments regarding the development of health-based limits. The Board voted to proceed with the public rule making process. Public hearings will be scheduled across the state so that citizens can express their opinions concerning the proposed changes to the aerial regulations. □

## *For More Information*

### **PESTICIDE SCHOOLS AND MATERIALS FOR CERTIFICATION AND RECERTIFICATION**

**CONTACT:** Dr. Wayne Buhler, Dept. of Horticultural Science, Box 7609, NCSU, Raleigh, NC 27695.  
Phone (919) 515-3113

### **CERTIFICATION, LICENSING, AND RECERTIFICATION CREDITS OR TESTING**

**CONTACT:** Mike Williams, Pesticide Section, NCDA&CS, P.O. Box 27647, Raleigh, NC 27611. Phone (919) 733-3556

### **PRIVATE APPLICATOR RECERTIFICATION CLASSES**

**CONTACT:** Your local Cooperative Extension Service office

### **COMMERCIAL APPLICATOR AND DEALER RECERTIFICATION CLASSES**

**CONTACT:** Pesticide Section Homepage [www.ncagr.com/fooddrug/pesticid](http://www.ncagr.com/fooddrug/pesticid)

### **PESTICIDE CONTAINER RECYCLING**

**CONTACT:** Colleen Hudak, Pesticide Section, NCDA&CS, P.O. Box 27647, Raleigh, NC 27611. Phone (919) 733-3556

### **PESTICIDE WASTE DISPOSAL**

**CONTACT:** Royce Batts, Food and Drug Protection Division, NCDA&CS,  
P.O. Box 27647, Raleigh, NC 27611 (919) 733-7366 or (919) 715-9023.

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